The incumbent LECs' position is a clear indication of their desire to maintain market power for both voice and data services.[294]

In fact, MCI has lost tens of thousands of customers this year alone because the incumbent LEC is providing the DSL service,[295] and the states that have the most incumbent LEC DSL lines are the states where MCI has lost the largest number of residential customers. There is a simple solution to this problem: the incumbent LECs should be required to continue providing DSL service to customers who wish to switch their voice service.

At least one state commission has embraced precisely this solution. In a June 6, 2002 order, the Michigan PSC held that Ameritech Michigan must

> institute procedures that allow CLECs to obtain the voice service over a LFPL [low frequency portion of the loop] when the same line is already being used to provide DSL service. The migration procedures necessary to accomplish this purpose must provide for a seamless migration of the voice service to the CLEC without disruption or disconnection of any other service being taken pursuant to a preexisting line-sharing arrangement and must be functionally equivalent to the processes that Ameritech Michigan uses when it and an affiliate participate in a line-sharing arrangement.[296]

[294] *See, e.g., Petition of Cinergy Communications Company for Arbitrations of an Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to U.S.C. Section 252*, Order, Kentucky Public Service Commission, Case No. 2001-00432, at 7-8 (July 12, 2002) (finding that BellSouth's "practice of tying its DSL service to its own voice service to increase its already considerable market power in the voice market has a chilling effect on competition and limits the prerogative of Kentucky customers to choose their own telecommunications carriers," and ordering BellSouth "not [to] refuse to provide its DSL service to a customer on the basis that the customer receives voice service from a CLEC that provides service by means of UNE-P.").

[295] *See* Huyard Declaration ¶ 17.

[296] *Complaint of Competitive Local Exchange Carriers Association of Michigan et al. against SBC Ameritech Michigan for Anti-Competitive Acts and Acts Violating the Michigan Telecommunications Act*, Opinion and Order, Michigan Public Service Commission, Case No. U-13193, slip op. at 15 (June 6, 2002). In this decision, the term

The PSC held that failure to implement such procedures would violate provisions of the Michigan Telecommunications Act as well as "federal law."[297] As this decision makes clear, the Commission should require incumbent LECs to provide for a seamless migration of voice service to the competitors without disruption or disconnection of any DSL service being provided by either the incumbent LEC or a competitive provider.

d) There is No Basis for the Commission to Exempt Advanced Services, Including Next-Generation Network Elements, from the Unbundling Rules

The BOCs' arguments in favor of exempting advanced services, including next-generation network elements, from the Commission's unbundling rules are based on several false premises. For example, contrary to the BOCs' assertions, the current unbundling rules are not thwarting facilities-based investment by the incumbents or competitors. There is no need to provide the BOCs with additional regulatory incentives to roll out broadband services. As the FCC recently concluded, the deployment of advanced services already is occurring in a reasonable and timely fashion.[298] In addition, despite the BOCs' claims, there is no substitute for unbundled broadband facilities and, as explained above, there are no viable alternatives to the incumbent LECs' last-mile facilities. Nor are the unbundling rules for broadband unduly burdensome as the BOCs would have the Commission believe. In fact, the UNEs that DSL providers purchase

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"line sharing" encompasses what the FCC refers to as "line splitting."

[297] *Id. See also id.* n.7 (noting that the D.C. Circuit's decision in *USTA v. FCC* "did not go so far as to hold that, as a matter of federal law, there is no obligation to provide nondiscriminatory access to the high- or low-frequency portions of the loop.").

[298] *Third 706 Report* at ¶ 2. The BOCs themselves are rapidly deploying advanced services. *See* WorldCom Comments at 93-94; Sprint Comments at 11; ATT Comments at 78-80.

from the BOCs are the same facilities that the BOCs currently provide to voice carriers and their own data affiliates. Finally, the "new" lines issue is merely a regulatory ruse created by the BOCs in an effort to avoid their unbundling obligations.[299] In fact, as WorldCom explains below, the arguments the BOCs espouse in this proceeding directly contradict claims they have made to investors and evidence adduced in state proceedings.

(1) Unbundling Requirements Are Not Slowing the Deployment of Advanced Services

The BOCs' claims that mandatory unbundling of broadband facilities undermines investment in advanced services are contradicted by the facts.[300] As WorldCom and others have shown, unbundling has had a positive effect on the deployment of advanced services[301] and has not deterred investment by either incumbent or competitive LECs.[302] As the California Commission explained, "the fact that Pacific/SBC has successfully promoted DSL service to customers under the current regulatory environment to the point of outstripping cable modem service makes clear that the current regulatory environment is conducive to, and does not impede investment in, broadband technology by the ILEC."[303] Indeed, the incumbent LECs increased their rate of their network investment after the passage of the Act.[304]

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[299] *See* SBC Comments at 61; Verizon Comments at 90.

[300] Verizon Comments at 74; Qwest Comments at 46-50; SBC Comments at 65.

[301] WorldCom Comments at 93-96; Sprint Comments at 11; Comments of Covad at 37.

[302] Kelley Declaration ¶¶ 18, 33.

[303] California PUC Comments at 8.

[304] Kelley Declaration ¶ 33.

Unbundling also encourages competitive investment.[305] Denying competitive LECs access to UNEs would only reduce competitive carriers' investments in their own facilities because the availability of UNEs at TELRIC prices reduces barriers to entry for facilities-based entry.[306] Denying competitive LECs access to UNEs also would result in less competition and fewer alternatives for consumers, businesses and the government.[307]

Notwithstanding these facts, the BOCs have speculated that their investment in broadband facilities has not been as great as it would have been in the absence of unbundling requirements. Such speculation was rejected by the Supreme Court in its discussion of the effect of TELRIC-based pricing on investment:

> The incumbents . . . merely speculate that the investment [in facilities] has not been as much as it could have been under other ratemaking approaches, and they note that investment has more recently shifted to nonfacilities entry option. We, of course, have no idea whether a different forward-looking pricing scheme would have generated even greater competitive investment than the $55 billion that the entrants claim, but it suffices to say that a regulatory scheme that can boast such substantial competitive capital spending over a 4-year period is not easily described as an unreasonable way to promote competitive investment in facilities.[308]

After noting that the BOCs invested over $100 billion during the same 4-year period, the Supreme Court affirmed "the commonsense conclusion that so long as TELRIC brings

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[305] Covad Comments at 37 (noting substantial investment in facilities due to incumbent LEC unbundling obligations.)

[306] *See* Kelley Declaration ¶ 9. *See also id.* ¶ 12 ("If UNE rates are truly set at TELRIC, then when the economics tell a CLEC it can justify its own facilities, the CLEC will build them if it can, if for no other reason than it does not want to be dependent on its competitor."); WorldCom Comments at 98.

[307] Comments of General Services Administration at 4.

[308] *Verizon v. FCC*, 122 S.Ct. at 1675-76.

about some competition, the incumbents will continue to have incentives to invest and to improve their services to hold on to their existing customer base."[309]

The same commonsense conclusion applies to unbundling. The unbundling rules were in place during a period that saw substantial BOC investment in their facilities, including broadband facilities.[310] The UNE rules also encouraged significant capital investments by competitors. The record thus shows that unbundling has not deprived the BOCs of their incentives to invest in their broadband facilities and to improve their advanced services. To the contrary, it has spurred competition, which in turn provides the BOCs with incentives to invest in their facilities and improve their services.

(2) There Is No Substitute for Unbundled Broadband-Capable Facilities

The Commission should not be swayed by BOC proposals to provide competitors a substitute for unbundled broadband facilities. Verizon, for instance, proposes to eliminate all unbundling rules that enable competitors to provide DSL services, but offers to deliver a "service" to competitors on "commercially reasonable, negotiated terms."[311] The problems with this proposal are two-fold. First, as explained above, a "service" is not an adequate substitute for facilities. Second, experience demonstrates that Verizon is unlikely to offer fair and reasonable terms and conditions to its competitors. Verizon has forced WorldCom to arbitrate nearly every issue that has arisen in unbundling

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[309] *Id.* at 1676, n.33.

[310] As WorldCom showed in its initial comments, much of the BOCs' massive investment in facilities since 1996 has involved advanced facilities such as DSL. WorldCom Comments at 98-99.

[311] Verizon Comments at 82.

negotiations between the two parties.[312] Similarly, Verizon and SBC forced Covad and Rhythms to spend millions of dollars in ongoing litigation over the terms and conditions for line sharing. Thus, there is no reason for the Commission to believe that Verizon will do anything but use its leverage as a well-funded monopoly to delay or refuse to implement any agreement that competitive LECs would consider fair.[313]

(3) The Incumbent LECs' Next-Generation Facilities Are Not Exempt from the Unbundling Requirements of the Act

SBC and Verizon seek to evade their obligations to unbundle DSL-capable fiber-fed NGDLC loop facilities. As discussed below, none of SBC's or Verizon's arguments is based on any technical, engineering, or business reality.[314] Indeed, many of the incumbent LECs' arguments to the Commission are directly contradicted by statements made to their investors, as well as by detailed and substantial evidence adduced in several state PUC proceedings that have already addressed the unbundling of incumbent LEC DSL-capable fiber-fed NGDLC network upgrades. Several state commissions have reviewed in detail the incumbents' broadband technology deployment, as well as the same costing and technical arguments put forth by the incumbent LECs in this

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312 *See* Organisation for Economic Co-operation and Development, Committee for Information, Computer and Communications Policy, Working Party on Telecommunication and Information Services Policies, *Developments in Local Loop Unbundling*, DSTI/ICCP/TISP(2002)5, at p. 9 (May 2, 2002) ("OECD Unbundling Paper") (noting that incumbents have little incentive to voluntarily implement rules that allow competitors to access their facilities.)

313 Prior to purchasing assets from Rhythms, WorldCom attempted to secure DSL from the BOCs but the BOCs refused to offer DSL services that met technical and product requirements necessary for WorldCom to provide a business-grade DSL service. WorldCom Comments, Graham Declaration at ¶ 19.

314 For purposes of this section, WorldCom will focus on SBC and Verizon – the two BOCs with which WorldCom has the most experience on DSL network issues.

proceeding, and have found competitive LECs to be impaired without access to the fiber-fed NGDLC architecture as unbundled network elements.[315]

TEXAS

> The Texas Arbitrator overseeing the litigation regarding competitive LECs' access to Project Pronto has concluded that SBC must make its Project Pronto offering available to competitive LECs at UNE rates. The Arbitrator rejected claims by SBC that unbundling of fiber loops would undermine SBC's incentive to deploy Project Pronto in Texas. Indeed, the Texas Arbitrator found that SBC's position was clear and convincing evidence that SBC possesses market power in the provision of DSL services.[316]

ILLINOIS

> The Illinois Commerce Commission has ordered SBC-Ameritech to make its Project Pronto offering available to competitive LECs as an end-to-end UNE.[317]

WISCONSIN

> Like the Illinois Commission, the Public Service Commission of Wisconsin ordered SBC-Ameritech to provide its Project Pronto offering to competitive LECs at UNE rates. The Wisconsin PSC stated: "The Commission finds that Project Pronto must be made available to CLECs as an end-to-end UNE. The Commission makes this finding on the grounds that unbundling Project Pronto serves the public interest and promotes competition by facilitating the provision of advanced services by CLECs, who would otherwise be impaired without access to these facilities."[318]

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[315] Because only a few states have considered the issue of competitive access to fiber-fed loops, FCC action is needed to ensure that competitors can benefit from such rules nationwide.

[316] *Petition of RhythmsLinks, Inc. Against Southwestern Bell Telephone Company for Post-Interconnection Dispute Resolution and Arbitration Under the Telecommunications Act of 1996 Regarding Rates, Terms, Conditions and Related Arrangements for Line Sharing*, Public Utility Commission of Texas, Docket No. 22469, Revised Arbitration Award ("*Texas Arbitration Award*").

[317] *Illinois Bell Telephone Company Proposed Implementation of High Frequency Portion of Loop/Line Sharing*, 00-C-0393, Illinois Commerce Commission, Order on Rehearing (September 26, 2001), attached to Letter from Kimberly Scardino, WorldCom, to Secretary Dortch, CC Docket No. 01-338, dated July 17, 2002, as Attachment 1 ("*Illinois Order on Rehearing*").

[318] *Investigation Into Ameritech Wisconsin's Unbundled Network Elements*, Public Service Commission of Wisconsin, Docket 6720-T1-161, Final Decision (March 22,

NEW YORK

> New York has ordered Verizon to provide competitors with fiber-fed loops so that they can provide DSL services. New York stated: "Verizon will be required to offer to competitors access to customers served over digital loop carrier as it becomes technically feasible and as is necessary for competitors to offer their services."[319]

As these state proceedings demonstrate, a thorough analysis of the issues that looks beyond the BOCs' rhetoric and examines the underlying facts inexorably leads to the conclusion that the Act requires the incumbent LECs to provide competitors with unbundled access to the network elements that constitute the NGDLC architecture.

(4) Requiring Unbundling of NGDLC Facilities Will Not Deter Incumbent LEC Deployment

The Commission should not be persuaded by SBC's and Verizon's threats to slow or even cease the rollout of their DSL-capable fiber-fed NGDLC network upgrades if they are subjected to unbundling requirements.[320] Neither SBC nor Verizon provides any credible evidence that it intends to discontinue DSL-capable fiber-fed NGDLC (*e.g.*, SBC's Project Pronto and Verizon's Packet At Remote Terminal Service (PARTS)) deployment midway through its multi-billion-dollar rollout. Indeed, from SBC's perspective, the deployment of Project Pronto is essential in order to enable SBC to compete with other broadband providers, particularly cable modem providers, and SBC

2002) ("*Wisconsin UNE Decision*").

[319] *Proceeding on Motion of the Commission to Examine Issues Concerning the Provisioning of Digital Subscriber Line Services*, Opinion and Order Concerning Verizon's Wholesale Provision of DSL Capabilities, New York Public Service Commission, Case 00-C-0127, Opinion No. 00-12 at pp. 27-28, ordering para. 4 (October 31, 2000).

[320] *See, e.g.,* SBC Comments at 63-64; Verizon Comments at 35.

claims that it "must upgrade or perish."[321] Similarly, Verizon claims "ILECs are compelled to deploy more fiber in order to bring faster and more innovative advanced services" and "to provide next-generation services."[322]

Further undermining SBC's threats are its recent boasts to investors about Project Pronto's success in having achieved a broadband service customer base of over 1.5 million—up 59% from a year ago.[323] It strains credulity to believe that SBC would delay or stop the rollout of Project Pronto,[324] given its great success.[325] In fact, as early as its October 18, 1999 Investor Briefing, SBC told investors that, with the Project Pronto initiative, SBC will attain "annual savings of $1.5 Billion by 2004" and that the "capital

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[321] SBC Comments at 36.

[322] Verizon Comments at 89.

[323] *See* SBC Investor Briefing at 5 (Apr. 18, 2002), *available at:* <http://www.sbc.com> (also claiming that in 2001, SBC "achieved a 35 percent decrease in its DSL per-line acquisition costs and a 20 percent reduction in its per-line recurring costs").

[324] Even in Illinois, where SBC supposedly "suspended" the deployment of Project Pronto because the Illinois Commerce Commission had ordered SBC to provide UNE access to the Project Pronto architecture, the "suspension" was only true in the most technical sense. SBC continued to deploy the Project Pronto fiber feeder facilities and support structures, as well as the remote terminals and NGDLC equipment, all of which are the long-lead-time construction efforts, throughout the "suspension." The only portion of the deployment that was actually "suspended" was the placement of the ADLU (ADSL) cards in the Litespan NGDLC equipment, and the continued installation of the OCDs in the central offices. It takes only a small number of days to install the OCDs and (re)install the line cards after the "suspension" is removed, as SBC inadvertently demonstrated recently in conjunction with its announcement that it was lifting the Project Pronto "suspension" in Illinois (even though the ICC ordered UNE access to Project Pronto). SBC Accessible letter CLECAM02-149, issued on April 19, 2002, announced that SBC would file a Project Pronto UNE tariff on May 10, 2002, and would make the ICC-mandated UNE access available to CLECs by May 21, 2002. *See* Letter from Kimberly Scardino, WorldCom, to Secretary Dortch, CC Docket No. 01-338, dated July 17, 2002, at Attachment 2.

[325] SBC Investor Briefing at 5 (Jan. 24, 2002), *available at:* <http://www.sbc.com> (noting that SBC ended 2001 as the Nation's No. 1 provider of DSL Internet service with the industry's largest DSL network coverage, reaching 25 million DSL-capable customer locations).

and expense savings pay for [the Project Pronto] initiative on [a net present value] basis."[326] Not only does Project Pronto provide substantial cost savings and network efficiencies, the revenue opportunities from the advanced services that can only be provided over the Pronto architecture would obviously disappear if Pronto is not rolled out.[327]

Although SBC continues to tell the Commission that unbundling Project Pronto will have a material negative effect on its finances, its public documents tell another story.[328] For example, despite its claim that it has slowed its broadband build out due to the "uncertain" regulatory requirements, "SBC ended 2001 with more than 5,800

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[326] SBC Investor Briefing at 2 (Oct. 18, 1999), *available at:* <http://www.sbc.com> and attached to Letter from Kimberly Scardino, WorldCom, to Secretary Dortch, CC Docket No. 01-338, dated July 17, 2002, as Attachment 3. In particular, SBC expects to realize expense savings because, from a maintenance perspective, the new fiber is much more efficient than the copper being replaced; and with fiber "the cost of providing additional bandwidth via electronics will be significantly less than adding more copper lines." SBC also expects to realize capital expenditure savings for feeder, trunking and provisioning of $600 million annually by 2004 as a result of its Project Pronto network upgrades. Also, the Project Pronto network efficiency initiatives are projected to save $450 million from converting current copper- based T-1s to new lower cost fiber facilities. *Id.* at 2, 6 & 7.

[327] *See* Joint Declaration of Tom Stumbaugh, David Reilly and William Drake, appended hereto as Attachment F, at ¶¶ 12-16 ("Stumbaugh/Reilly/Drake Declaration"), discussing the efficiencies of the packetized network. Among its other benefits, Project Pronto gives SBC the flexibility to move readily to other voice protocols (besides circuit switched), including voice over ATM, voice over ADSL and, ultimately voice over IP. SBC Investor Briefing at 2 (Oct. 18, 1999). Project Pronto also enables other services, *e.g.*, distance learning, video conferencing, remote management, web hosting and server hosting. *Id.* at 8-9. Finally, SBC is targeting an additional $500 million net revenue opportunity by 2004 from products like switched virtual circuits, voice over DSL, and VPOP-DAS. *Id.* at 8-9.

[328] For example, on January 24, 2002, SBC told investors, "SBC also continued expansion of its broadband network capabilities, with 25 million DSL-capable customer locations at year's end [2001]. In 2001, SBC's DSL-capable footprint expanded by more than 6.7 million customer locations, or 37 percent." SBC Investor Briefing at 5 (Jan. 24, 2002.

neighborhood broadband gateways in service, up from approximately 2,000 at the beginning of 2001."[329] Clearly, the orders of several state commissions requiring SBC to unbundle Project Pronto as an end-to-end UNE[330] have not diminished SBC's expectation that it will continue to benefit from deploying Project Pronto.[331]

SBC's attempts to convince the Commission that the Project Pronto investment is an ambitious, risky network project are also contradicted in its statements to investors.[332] The investment can hardly be considered risky, given that SBC has stated that the project will pay for itself in maintenance savings. Project Pronto is being financed within SBC's existing capital structure, a fact that SBC boasts about in one of its Investor Briefings, stating that, "[w]ith current operating cash flow in excess of $15 billion, the company has plenty of capacity to fund this investment within its existing capital structure."[333]

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[329] *See* SBC Investor Briefing at 5 (Jan. 24, 2002).

[330] *Texas Arbitration Award*, at 75; *Illinois Order on Rehearing*, at 37; *Wisconsin UNE Decision*, at 10-12, 20-22, 89-117.

[331] Verizon's assertions that it has "significantly constrained deployment of DSL capability in [its] remote terminals" are similarly misleading. *See* Verizon Comments at 35 (citations omitted). In California, for example, Verizon has "pre-positioned" all new RTs to be capable of supporting DSL service, except for placing line cards, software and optical concentration devices. Verizon California Inc.'s Appeal of ALJ's Denial of Verizon's Motions to Quash March 22, 2002 Subpoena Duces Tecum for Tony Recine and Person Most Knowledgeable, and Subpoena Duces Tecum for Email Communications of Named Verizon Personnel (Apr. 26, 2002), California Public Utilities Commission R.93-04-003/I.94-04-002 (Line Sharing Phase).

[332] *See, e.g.,* SBC Comments at 60; *see also,* Verizon Comments at 86.

[333] SBC Investor Briefing at 10 (Oct. 18, 1999).

(5) The BOCs Exaggerate the Costs of Unbundling NGDLC Facilities

SBC's and Verizon's claims concerning the costs of unbundling their fiber-fed NGDLC networks are completely unfounded.[334] Although SBC and Verizon provide few specifics to support their contentions, both incumbents point to cost estimates provided by SBC in a line sharing proceeding before the Illinois Commerce Commission.[335] WorldCom was directly involved in that proceeding, as well as in a similar proceeding in California where SBC relied on the same approach to estimating the cost of unbundling Project Pronto that it used in Illinois,[336] and has had an opportunity to analyze SBC's "cost analysis" in detail.

As the record evidence in the Illinois and California proceedings clearly demonstrates, SBC's Project Pronto unbundling "cost analysis" is completely inadequate and suffers from several critical flaws. For example, the so-called "cost analysis" provided by SBC in Illinois and in California was performed by Mr. James Keown, an SBC outside plant engineer, who had never conducted either a regulatory embedded cost analysis or a TELRIC analysis.[337] Mr. Keown did not even ask for assistance from

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[334] *See, e.g.,* SBC Comments at 51-52; SBC Comments Attachment C, at 1, 3.

[335] SBC Comments, at 62; SBC Comments Attachment C, at 3 (claiming SBC estimated CLEC line card collocation in Illinois to cost in "excess of $50 million"); Verizon Comments, at 35 n.135.

[336] Ameritech-Illinois Testimony of James E. Keown, Attachment JEK-4, Illinois Commerce Commission, Proposed Implementation of High Frequency Portion of Loop (HFPL)/Line Sharing Service Docket No. 00-0393 (Rehearing); Pacific Bell's Testimony of James E. Keown, Attachment JEK-4, California Public Utilities Commission R.93-04-003/I.93-04-002 (Line Sharing Phase); CA Hearing Transcript (Keown), at 15486-89. SBC's witness in California, Mr. Keown, stated under oath that the assumptions underlying the "cost analysis" he submitted for California are identical to those he submitted in Illinois. *See* CA Hearing Transcript (Keown), at 15486-89.

[337] IL Rehearing Transcript at 2184:18-22, 2202:15-16.

SBC's costing experts when compiling his "cost study";[338] Mr. Keown's "analysis" did not reflect the real-world conditions under which *unaffiliated* competitors would make use of the Project Pronto facilities; Mr. Keown's "cost analysis" was improperly inflated because it was based on a snapshot of the capabilities of the Litespan NGDLC equipment that included a temporary limitation that has already been removed ; [339] and, SBC's "cost analysis" was based on unrealistic assumptions and predicates. Indeed, Mr. Keown openly admitted several times on cross-examination in state proceedings that his estimates were based on worst-case assumption for nearly all of the cost factors,[340] even

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[338] *Id.* at 2187: 7-9.

[339] As explained in the attached Stumbaugh/Reilly/Drake Declaration, competitive LECs have requested that they be provided with not only permanent virtual circuits (PVCs), but also permanent virtual paths (PVPs) on the Project Pronto and PARTS architecture. Stumbaugh/Reilly/Drake Declaration ¶¶ 32-33. Alcatel software release 10.x supports only one PVP per Litespan Channel Bank Assembly (CBA). Mr. Keown relied on this temporary limitation and proceeded to assume that a competitor's request for a PVP would therefore exhaust the available bandwidth for the entire CBA, purportedly necessitating an SBC construction project that essentially would double the number of RTs deployed, thereby doubling the cost of Project Pronto. In fact, however, as SBC has known for over a year, Alcatel Litespan software Release 11 removes the one PVP per CBA limitation, and now the Litespan NGDLC can support 64 PVPs per CBA. Testimony of Dr. Niel Ransom on cross-examination in Indiana Utility Regulatory Commission proceeding, *Commission Investigation and Generic Proceeding on Ameritech Indiana's Rates for Interconnect, Service, Unbundled Elements, and Transport and Termination Under the Telecommunications Act of 1996 and Related Indiana Statutes*, May 1, 2002 (reporter's transcript not yet available). Moreover, Alcatel made Release 11 commercially available to SBC in August 2001, and SBC has already tested Release 11 and approved it for use. *Id.* Thus, the huge additional costs calculated by Mr. Keown on the basis of the Release 10 assumption are clearly and completely in error.

[340] *See. e.g.,* IL Rehearing Transcript at 2189:14-18 (worst case for competitive LEC use of PVPs); 2190:13-15 (worst case for competitive LEC line card collocation); 2192:22-2193:3; 2193: 22-2194:2; 2198:3; 2198:8-10. For example, as part of its worst-case scenario, for competitive LEC line card collocation, SBC assumed that each competitive LEC would have only one customer per serving area interface (SAI), and thus would "strand" 3 of the 4 ports on the line card, or 75% of the port capacity. *Illinois Order on Rehearing*, at 31. SBC calculated that such inefficient port use would cause an additional

though SBC does not normally employ worst-case scenarios in its decision-making process.[341]

The Illinois Commerce Commission, which has spent the last two years examining in detail the issues and evidence relating to line sharing on the Project Pronto architecture, including SBC's claims concerning the costs of unbundling, rejected SBC's "doomsday 'cost analysis'," finding it to be "simply a teleological endeavor designed to produce the highest possible costs of compliance imaginable, untempered by anything remotely resembling a dose of reality."[342] Accordingly, the Commission should view the incumbent LECs' so-called cost estimates for unbundling fiber-fed NGDLC architectures with great skepticism.

(6) Deployment of NGDLC Upgrades Does Not Create a New "Overlay" Network

In a further effort to avoid their unbundling obligations, SBC and Verizon attempt to convince the Commission that their DSL-capable fiber-fed NGDLC network upgrades, such as SBC's Project Pronto, are "overlay" networks.[343] However, the engineering reality is that network deployments like Project Pronto are just another in a long series of steps undertaken by incumbent LECs over the years to modernize their loop networks,

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capital cost of $23,169,643 when 50% of the planned 2090 RTs in Illinois have collocated line cards of five different competitive LECs. *Illinois Order on Rehearing*, at 31. This assumption becomes invalid as soon as the competitive LEC adds the second (and then the third and fourth) customer. Moreover, SBC assumed that at *every* RT there would be at least one competitive LEC seeking to collocate a line card. CA Line Sharing Hearing Transcript (Keown), at 15486-89.

[341] IL Rehearing Transcript at 2190:13-15.

[342] *Illinois Order on Rehearing* at 36.

[343] *See, e.g.*, SBC Comments at 61; Verizon Comments at 90-91.

including outside plant and central office facilities.[344] The fiber-fed DSL-capable NGDLC network deployment, such as Project Pronto, represents the next progression in the basic loop plant architecture.[345]

Alcatel, one of two primary vendors for NGDLC equipment for both SBC and Verizon, certainly does not consider its NGDLC equipment to be a specialty adjunct, or "overlay" network platform. Dr. Niel Ransom, Alcatel's Chief Technology Officer, has testified before state regulators in Illinois, California and Indiana that Alcatel views its Litespan NGDLC (the type deployed by both SBC and Verizon) as the platform of the future for all services. Dr. Ransom testified that Litespan is the most flexible and feature-rich engine in a single platform for voice and data, and that by using packet technologies, the digital loop allows an almost unlimited range of services.[346]

Given this engineering reality, the incumbent LECs' efforts to treat DSL-capable fiber-fed NGDLC network upgrades as an "overlay" are disingenuous. From an engineering perspective, it makes little economic sense to operate two parallel loop plant networks (*i.e.*, fiber-fed NGDLC and home run copper) for any significant period of

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[344] Stumbaugh/Reilly Declaration ¶ 4-15; Stumbaugh/Reilly/Drake Declaration ¶ 18. Verizon has indicated that it is rolling out DSL-capable fiber-fed NGDLC equipment in an architecture essentially identical to SBC's Project Pronto. Stumbaugh/Reilly Declaration ¶¶ 13-14; *see also* Stumbaugh/Reilly/Drake Declaration ¶ 16.

[345] Stumbaugh/Reilly Declaration, at 4-9; Stumbaugh/Reilly/Drake Declaration ¶ 18.

[346] *See, e.g.,* IL Rehearing Transcript at 758. Indeed, the White Paper that Alcatel distributes to its Litespan customers states that "with mass-market DSL now available, value added services such as virtual line or voice over DSL can be offered in addition to basic high-speed Internet access, VPN, streaming audio and video, interactive broadband, e-commerce and yet to be defined applications." California Line Sharing Proceeding, R.93-04-003/I.93-04-002, Ransom Cross Exh. 17, at A08-000046, attached to Letter from Kimberly Scardino, WorldCom, to Secretary Dortch, CC Docket No. 01-338, dated July 17, 2002, as Attachment 4.

time.[347] To do so would prevent the incumbent LEC from fully realizing the maintenance savings and lower unit cost of capacity expansion associated with the fiber-fed NGDLC loop architecture. The incumbent's total costs would increase because of the need to maintain two loop plant networks.[348] Indeed, the incumbent LECs' "overlay" argument is undercut by Verizon's own comments in this proceeding.[349] In particular, as Verizon's Comments make clear, incumbent LECs such as SBC and Verizon will soon use the fiber-fed NGDLC loop network as their only loop network in the areas they serve.[350]

The states that have examined this issue have seen through SBC and Verizon's "overlay" argument. The Public Service Commission of Wisconsin, for example, succinctly pointed out that "[t]he Project Pronto, Next Generation Digital Loop Carrier

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[347] Stumbaugh/Reilly/Drake Declaration ¶ 17. SBC may have persuaded the FCC to grant a waiver of merger conditions by promising not to remove home run copper from service for a short period of time. *See Ameritech Corp., Transferor and SBC Communications, Inc., Transferee,* Second Memorandum Opinion and Order, 15 FCC Rcd 17521, ¶ 39 (2000) ("*Project Pronto Waiver Order*"). This "commitment" may in fact be the basis for SBC's claim that Project Pronto is an "overlay" network. Despite this temporary regulatory commitment, however, the engineering reality remains that SBC will make Project Pronto the only loop architecture where it has been deployed, as soon as it is politically and legally possible to do so.

[348] Stumbaugh/Reilly/Drake Declaration ¶ 17.

[349] Verizon Comments, at 74; Verizon Comments at 86-87 (complaining that line sharing obligations should be eliminated because they require the incumbent LEC "to maintain two networks" – a copper one for line sharing and a fiber one). According to Verizon, the Commission's line sharing obligations are based on the incorrect assumption that "the optimum telephone company network will remain as it is – predominately copper subscriber loops; but in fact, the ILECs will have to upgrade their networks substantially, particularly by installing a great deal of fiber and associated electronics." Verizon Comments, Kahn/Tardiff Declaration, ¶¶ 38, 39.

[350] *See* Stumbaugh/Reilly/Drake Declaration ¶ 17.

(NGDLC) loop architecture, which is designed to provide advanced services, replaces traditional copper loops. Project Pronto is not an overlay network."[351]

Any distinction between overlay and existing facilities would skew incumbent LEC incentives. As CompTel points out, such a distinction would create an incentive for incumbents to re-engineer their networks to "create the illusion of separate 'broadband' and 'legacy' networks."[352] It would also "give the ILECs an incentive to allow or even accelerate the deterioration of their 'legacy' networks (to which its competitors would have mandatory access) while focusing their efforts on their 'broadband' networks (which they feel should be off-limits to competitors)."[353] WorldCom agrees with the California PUC that "[u]nbundling requirements that are differentiated by whether facilities are new or overlay could skew ILEC investment decisions regarding network design and timing, and therefore should not be adopted."[354]

(7) The Incumbent LECs Must Be Required to Unbundle All Features, Functions and Capabilities of NGDLC Loops

The incumbent LECs' obligation to provide unbundled access to DSL-capable fiber-fed NGDLC loops is much more straightforward than the BOCs make it seem. Both SBC and Verizon attempt to distract the Commission with arguments about the packet switching unbundling rules established for stand-alone, central office-based packet switches connected to all-copper loops.[355] Those rules are irrelevant to the discussion of

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351 *Wisconsin UNE Decision*, ¶ 55; *see also Texas Arbitration Award* at 76-7.

352 Comments of CompTel at 42.

353 *Id.* at 42.

354 Comments of the California PUC at 18.

355 SBC Comments at 48-51, 53-54, 58-60; Verizon Comments at 87-88; *UNE Remand Order* ¶ 308.

fiber-fed NGDLC networks, however.[356] Where DSL-capable fiber-fed NGDLCs are deployed, it makes more sense to analyze packet switching as a functionality of the local loop.[357] The Commission has made plain its mandate that "section 251(c)(3) requires incumbent LECs to provide requesting carriers with *all* of the functionalities of a particular element, so that requesting carriers can provide any telecommunications service that can be offered by means of the element."[358] Because the loop element is defined in functional terms, it must include integrated digital loop carrier technology or similar remote concentration devices.[359]

As discussed in detail in the Stumbaugh/Reilly Declaration, SBC's and Verizon's deployment of fiber-fed NGDLC systems in their loop architecture does not negate the fact that the transmission facility from the end user premises to the central office is a loop network element.[360] Despite SBC's claims to the contrary, nothing about the architecture of SBC's Project Pronto and Verizon's PARTS networks alters the basic functionality of a loop, namely to provide the necessary transmission functionality for a customer to send and receive telecommunications signals between its location and its chosen service

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[356] *See, e.g., Texas Arbitration Award*, at 76 ("Because packet switching is a necessary component of the Pronto architecture, if CLECs are entitled to access the transmission facility supporting that architecture, packet switching must be included in the analysis.")

[357] *See* Stumbaugh/Reilly/Drake Declaration ¶ 27; *see also Line Sharing Reconsideration Order* ¶ 10 ("The local loop is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end user customer premises.") *See also Texas Arbitration Award*, at 74.

[358] *Local Competition Order*, ¶ 292 (emphasis added); *see also id.* ¶¶ 260, 262.

[359] *Local Competition Order*, ¶¶ 383-385. The FCC later reaffirmed incumbent LECs' obligation to provide unbundled loops, including, specifically, digital loop carrier systems and their attached electronics, as well as the obligation to provide unbundled access to subloops, or portions of the loop at any accessible point at terminals in the incumbents' outside plant. *UNE Remand Order*, ¶ 206.

[360] Stumbaugh/Reilly Declaration at 4-15.

provider's network. As the Commission stated in its *Line Sharing Reconsideration Order,* "it would be inconsistent with the intent of the *Line Sharing Order* and the statutory goals behind sections 706 and 251 of the 1996 Act to permit the increased deployment of fiber-based networks by incumbent LECs to unduly inhibit the competitive provision of xDSL services."[361]

If the Commission declines to include all features, functions, and capabilities in the definition of the loop, then the Commission should modify the *UNE Remand Order*'s four-part test for determining whether packet-switching must be unbundled.[362] It is essential that CLECs have unbundled access to the packetized transport to and from the Remote Terminal (RT), including the incumbent LEC DSLAM functionality located at the RT or elsewhere in the loop plant. As WorldCom explained in its initial Comments, such a rule is wholly consistent with the reasoning underlying the four-part test.[363] Indeed, several states, after carefully evaluating the *UNE Remand Order*'s packet switching rule, have already found that competitors are impaired without unbundled access to loops and packet switching.[364]

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361 *Deployment of Wireline Services Offering Advanced Telecommunications Capability,* Third Report and Order on Reconsideration in CC Docket No. 98-147, Fourth Report and Order on Reconsideration in CC Docket No. 96-98, 16 FCC Rcd 2101, ¶ 13 "(*Line Sharing Reconsideration Order*"). *See also id.* ¶ 11 (noting that "[i]f our conclusion in the Line Sharing Order that incumbents must provide access to the high frequency portion of the loop at the remote terminal as well as the central office is to have any meaning, then competitive LECs must have the option to access the loop at either location, not the one that the incumbent chooses as a result of network upgrades entirely under its own control").

362 *See UNE Remand Order* ¶ 313; 47 C.F.R. § 51.319(c)(5); WorldCom Comments at 117-119.

363 WorldCom Comments at 117-119.

364 *See, e.g. Texas Arbitration Award* at 76 ("Because packet switching is a necessary

(8) Technical Issues

Contrary to SBC's claims,[365] unbundling Project Pronto and allowing competitive LEC line card collocation will not overtax the capacity of the fiber-fed NGDLC network.[366] Even using the top end of the range of SBC's estimated DSL take rates,[367] there will be plenty of available DSL card slots in the NGDLC equipment, with or without competitive LEC line card collocation. And any shortage of line card slots could easily be remedied by implementing competitive LEC line card pooling.[368] In addition, the fiber-fed NGDLC architecture supports quality of service (QoS) classes other than the Unspecified Bit Rate (UBR) QoS class that SBC contends it will use for its own end-user customers.[369] As Stumbaugh, *et al.* explain, it is technically feasible to provide a Constant Bit Rate QoS on Project Pronto equipment.[370] In fact, SBC announced plans to support this industry-standard QoS class as far back as October 2000.[371]

SBC's unwillingness to allow competitive LECs access to all of the features and functionalities of Project Pronto violates its promise to the Commission to "unleash[] the

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component of the Pronto architecture, if CLECs are entitled to access the transmission facility supporting that architecture, packet switching must be included in the analysis"); *Illinois Order on Rehearing*, at 36 (reiterating that "all of the requisite circumstances set forth in Section 51.319 [packet switching rule] are present in Illinois.").

[365] *See* SBC Comments at 52; SBC Comments Attachment C, at 2-5 (alleging that stranded line card capacity and bandwidth would result); *see also* Verizon Comments at 92-94 (making vague, completely unsupported assertions of "significant technical problems" and "inefficient use").

[366] *See* Stumbaugh/Reilly/Drake Declaration ¶¶ 28-36.

[367] Although WorldCom has obtained these SBC take rates in state PUC proceedings, nondisclosure agreements preclude WorldCom from providing the actual numerical values in these public comments.

[368] Stumbaugh/Reilly/Drake Declaration ¶ 29.

[369] *See* SBC Comments Attachment C, at 4-5.

[370] Stumbaugh/Reilly/Drake Declaration ¶ 34.

[371] *Id.*